

template. Claim 20 is rejected because it is unclear whether the layer is stored before or after steps (c) and/or (d) of claim 1.

In response, Applicants note that the claims have been amended for clarity. Applicants respectfully request the Examiner to withdraw this rejection.

Rejection under 35 U.S.C. § 102

Claims 1-3, 5-12 are rejected under 35 U.S.C. § 102(b) as being anticipated by Demers et al. (5,850,256 (Demers)). The Examiner's position appears to be that Demers discloses an array comprising a rigid support, a molded layer with at least a first assay location comprising discrete sites wherein the molded layer is adhered to the rigid support, a layer of bonding agent adhering the rigid support to the molded layer and also discloses a population of microspheres comprising first and second subpopulations with first and second bioactive agents, wherein the microspheres are randomly distributed on the sites. Because of these teachings, the Examiner asserts that Demers teaches each and every element of the present claims and thereby anticipates the rejected claims. Applicants respectfully traverse.

Demers teaches a plate with a plurality of uniformly sized reaction cells formed in the upper surface. The density of reaction cells is at least about 10 cells per cm². Beads may be in the cells.

In contrast, the present claims are directed to an array comprising a rigid support with a molded layer with at least a first assay location comprising discrete sites, wherein the molded layer is adhered to the rigid support. In addition the present claims recite a layer of bonding agent adhering the rigid support to the molded layer and a population of microspheres

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comprising a first and second subpopulation comprising first and second bioactive agents randomly distributed on the sites.

As the Examiner is aware, as stated by the Federal Circuit in *In re Bond*, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990), “[f]or a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference.”

Here, Applicants respectfully submit that Demers fails to teach each element of the claims. First, Applicants note that Demers fails to disclose a population of microspheres comprising first and second subpopulations. While Demers discloses that beads may be used, Applicants found no disclosure of first and second subpopulations of beads. Moreover, Applicants fail to find any teaching of beads having bioactive agents. In addition, Applicants fail to find any teaching of first and second populations of beads comprising first and second populations of bioactive agents. In addition, Applicants fail to find any teaching that the beads of Demers are randomly distributed in the sites. Finally, Applicants respectfully submit that Demers fails to teach a molded layer with at least a first assay location comprising discrete sites. The Examiner points to col. 7, lines 34-59 and col. 8, lines 4-64 as teaching these elements. However, Applicants find no such teaching at these places in Demers. While Demers teaches a substrate with cells, it is unclear what teaching in Demers the Examiner feels anticipates a first assay location comprising discrete sites. That is, while Demers may teach discrete sites in a substrate, which also may be interpreted as assay locations in a surface, there is no teaching of an assay location comprising discrete sites.

Regarding claim 3, Applicants would like to clarify that the claim recites that the sites are separated by a distance of at *most* about 100 μm . This is in contrast to the Examiner’s characterization at p. 4, section 7, 4th full paragraph of the office action of September 5, 2002.

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There the Examiner appears to state that the claims recite that the sites are separated by a distance of at least about 100 μm . Applicants believe that Demers fails to teach that sites are separated by at most about 100 μm .

Accordingly, Applicants respectfully submit that Demers fails to teach each and every element of the claims. Applicants respectfully request the Examiner to withdraw the rejection.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. § 102(e) as being anticipated by Walt et al. (6,327,410, Walt)). The Examiner's position appears to be that Walt teaches each and every element of the claims. Applicants respectfully traverse.

Walt teaches an array comprising beads comprising bioactive agents randomly distributed on wells on a surface

As has been noted above, for a claim to be anticipated under 35 U.S.C. § 102, each and every element of the claim(s) must be found in that single prior art reference.

Here, Applicants submit that while Walt describes an array comprising a substrate with wells and beads distributed in the wells, the reference is silent with respect to at least a layer of bonding agent adhering the rigid support to a molded layer. That is, while the Examiner points to col. 5, line 49 to col. 6, line 3 and lines 48-61 as providing teaching that anticipates such an adhesive layer, Applicants read Walt differently. The Examiner appears to emphasize the teaching in Walt of a "pattern of adhesive". However, in Walt, the pattern of adhesive is not necessarily an adhesive for adhering a rigid support to a molded layer as required by the present claims. In fact, the pattern of adhesive is an optional method of adhering microspheres.

Accordingly, Applicants submit for at least this reason, that Walt does not anticipate the present claims. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection.

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Rejection under 35 U.S.C. § 103

Claims 4 and 15-24 are rejected under 35 U.S.C. § 103 as being obvious over Virtanen 6,342,349 (Virtanen)) and Walt et al. (6,327,410 (Walt)). The Examiner's position appears to be that it would have been obvious for one of skill in the art to combine the array composition of Walt with the microscope slide as taught by Virtanen. Applicants respectfully traverse.

Virtanen describes an optical disk having analyte specific signal elements disposed thereon. The assay device also may be fashioned on a support other than a disk. However, Applicants fail to find any disclosure of a layer of bonding agent adhering a rigid support to a molded layer.

Walt is described above and teaches a microsphere based sensor that includes beads distributed in wells.

As the Examiner is aware, there are three requirements to establish a prima facie case of obviousness. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In addition, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Here, Applicants note initially that not all of the claim elements are present in the cited references. That is, Claim 4 is directed to a array composition that includes a rigid support formatted to the dimensions of a microscope slide, a molded layer with at least a first assay

location comprising discrete sites, wherein the molded layer is adhered to the rigid support, a layer of bonding agent adhering the rigid support to the molded layer and a population of microspheres comprising at least a first and a second subpopulation, wherein the first subpopulation comprises a first bioactive agent and the second subpopulation comprises a second bioactive agent wherein the microspheres are randomly distributed on the sites. In contrast, none of the cited references taken individually or together disclose a molded layer that is adhered to a rigid support and a layer of bonding agent adhering the rigid support to the molded layer.

With respect to claim 15, Applicants submit that the moldable material of Virtanen does not meet the claim limitation of the moldable material as claimed. That is, as claimed, the method includes removing the moldable material from the surface of the template structure, whereby the moldable material forms a molded layer with at least a first assay location comprising discrete sites. In contrast, the moldable material of Virtanen, once removed from the template structure loses its structure and as such it no longer forms a molded layer. Applicants note that the Examiner refers to column 62, lines 1-30 and figure 42 as the relevant sections of Virtanen that teach these elements. However, as noted above, the method of using the disposable film does not meet the limitations as set forth in the claims.

In addition, Applicants note that the present invention is directed to forming a molded layer such that when the material is removed from the template the molded layer retains at least a first assay location comprising discrete sites. That is, when removed from the template, the molded layer retains shape of the template. This is in contrast to the method disclosed in Virtanen, where the disposable film does not retain its form after being removed from the template. Applicants draw the Examiner's attention to Figure 41L which demonstrates that after the film is removed from the template, it does not retain the molded shape. Accordingly,

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Applicants submit that not all claim elements are taught in the cited references either individually or when taken together.

In addition, Applicants respectfully submit that the Examiner has failed to set forth adequate motivation for the combination of the references. The Examiner suggests that one of skill in the art would have been motivated to combine the references because of the “obvious benefits of economy of time and labor as taught by Walt et al.” (citing column 4, lines 53-56) (see p. 8, first full paragraph of the office action). However, Applicants submit that this does not provide the specific guidance required to provide motivation to modify or combine the references of Virtanen and Walt to reach the claims of the present invention. To this end, Applicants remind the Examiner that it is improper to use an obvious to try approach or to cite to only general guidance as to the particular form of the claimed invention or how to achieve it. See *In re O’Farrell*, 853 F. 2d 894,903, 7 USPQ2d 1673,1681 (Fed. Cir. 1988).

Next the Examiner suggests that it would have been obvious for one of skill in the art to apply the molded of layer of Virtanen to the array surface of Walt thereby providing renewable substrates and reducing disposables as taught by Virtanen (citing column 62, lines 1-4). However, Applicants remind the Examiner that references “must be considered in their entirety, i.e. as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). That is, Applicants respectfully submit that the teaching in Virtanen of a film that retains none of its shape after removal from a template (see Figure 41L) would not have motivated one of skill in the art to combine the teachings of Virtanen with Walt to reach the claimed invention.

For the above reasons, Applicants submit that not all of the claims elements are taught in the prior art references. Also, Applicants submit that the Examiner has not provided or set forth

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adequate motivation for the combination of the references. Accordingly, Applicants submit that a prima facie case of obviousness has not been established and the Applicants respectfully request the Examiner to withdraw the rejection.

CONCLUSION

Applicants submit that the claims are now in condition for allowance and early notification to that effect is respectfully requested. If the Examiner feels there are further unresolved issues, the Examiner is respectfully requested to phone the undersigned at (415) 781-1989.

Respectfully submitted,

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VERSION SHOWING CHANGES MADE

18. (Amended) The method according to claim 15, wherein said template structure is cylindrical, and steps (a) and (b) are carried out by a continuous process of rolling said cylindrical template structure wherein at a first portion of the cylinder, the cylinder is contacted with a moldable material and at a second portion of the cylinder, solidified moldable material is removed from the cylinder as a molded layer.

20. (Amended) The method according to claim 19, wherein prior to step (c), said flexible molded layer is stored in rolled form.